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DESCRIPTIONS AND FIGURES

OF SOME NEW

LEPIDOPTEROUS INSECTS,

CHIEFLY FROM

NEPAL.

BY

GEORGE ROBERT GRAY, F.L.S., &c.

LONDON:

LONGMAN, BROWN, GREEN, AND LONGMANS,

PATERNOSTER ROW.

1846.

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PREFACE.

THE following figures were selected from General Hardwicke's Collection of Drawings. The Engravings were made, the impressions coloured, and the descriptions set up in type in 1833; but the appearance of the work was delayed by the death of General Hardwicke, and by the chancery suit which his family instituted.

The various works then in progress, founded on the materials collected by him, were this year sold by public auction, and having again come under my control, I hasten to fulfil in some degree, the desires of my late friend, who made so many sacrifices for the improvement of his favorite study.

As the text had to be recomposed, references to modern works, &c., have been added to make it consistent with the present state of Entomology.

This work will be followed by :—

1. The Ornithology of China, illustrated with Plates, by W. Swainson, Esq., F.R.S.
2. The Spiders of Nepal, illustrated with numerous Plates.
3. The Fungi of Nepal, with numerous Plates, and some other works selected from General Hardwicke's collection.

JOHN EDWARD GRAY.

British Museum,
1st September, 1846.

EXPLANATION PLATES.

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DESCRIPTIONS OF NEW LEPIDOPTERA.

PAPILIONIDÆ.

Papilio Minereus, Tab. 1.

Pap. alis repandis nigrescentibus; anticis inter nervos strigis atris; posticis caudatis maculâ in medio crassâ albâ a nervis interruptâ maculisque sex rubris.

Papilio Minereus, *G. R. Gray*, *Gray's Zool. Misc.* 1. p. 32. *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 9.

P. Latreillii, *Don. Nat. Rep. pl.* 140.

P. Philoxenus, (female) *Boisd. Spec. Gen. Lepid.* 1. p. 264.

Fore-wings black, with darker rays between the nervures; the hinder wings black, tinged with brown at the base with a large white spot in the centre, divided by the nervures, five spots and the apex of the tail, red.

Under surface similar to the upper, but paler.

Expanse of wings five inches.

Inhab. Nepal.

Papilio Philoxenus, Tab. 2.

Pap. alis repandis nigrescentibus; anticis inter nervos strigis atris; posticis dentatis caudatis maculâ albâ versus angulum anticum maculisque quinque rubris.

Papilio Philoxenus, *G. R. Gray*, *Gray's Zool. Misc.* 1. p. 32.

—*Boisd. Spec. Gen. Lepid.* 1. p. 264. *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 9.

Fore-wings black, with darker rays between the nervures; the hinder wings black, with a large spot towards the anterior angle, and four irregular spots along the margin and one on the apex of the tail, red.

Under surface similar to the upper, but much paler.

Expanse of wings nearly five inches.

Inhab. Nepal.

Papilio Glycerion, Tab. 3. f. 2.

Pap. alis viridiscentibus fasciis nigris; posticis caudatis angulo anali nigro lunulis tribus cæruleis strigâque flavâ.

Papilio Glycerion, *G. R. Gray, Gray's Zool. Misc.* 1. p. 32. *Boisd. Spec. Gen. Lepid.* 1. p. 247. *Westw. Arc. Ent. pl.* 55. *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 8.

Fore-wings greenish white, with short longitudinal black bands in front and three interrupted marginal ones, the first of which is broad and bifid anteriorly; the hinder-wings greenish white, with three interrupted bands on the outer margin, the anal angle and the tail black, the former marked with a curved yellow line somewhat in the form of a reversed V and with three blue lunes.

Under surface like the upper, but paler, more banded on the hinder-wings and less black at the anal angle.

Expanse of wings three inches.

Inhab. Nepal.

Papilio Machaon, *Linn.* Tab. 3. f. 1.

Doubl. List Lepid. Ins. Brit. Mus. 1. p. 15.

The Nepal specimens scarcely appear to differ from those found in Europe.

Papilio Agestor, Tab. 4. f. 2.

Pap. alis griseis; anticis venis margineque exteriore nigris hâc griseo-punctatâ; posticis corticinis disco maculisque griseis.

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Papilo Agestor, *G. R. Gray*, *Gray's Zool. Misc.* 1. p. 32. *Boisd. Spec. Gen. Lepid.* 1. p. 376. *Westw. Arc. Ent. pl.* 16. *f.* 2. *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 19.

Fore-wings gray, with the veins and the margin black, the latter spotted with gray; the hind wings brownish red, with the disc and spots gray.

Under surface similar to the upper, but paler.

Expanse of wings three inches, to three and three quarters.

Inhab. Sumatra.

Parnassius Hardwickii, Tab. 4. f. 1. 1a.

Parn. alis integerrimis albidis basi nigris; anticis fasciis tribus nigris quarum ultimâ maculis tribus rubris ocelloque rubro nigro-circumdato in medio marginis posterioris; posticis medio ocellis duobus rubris nigro-circumdatis margineque posteriore ocellis quinque cærulescenti-nigris pupillis albis; subtùs pallidioribus basi fasciâque rubris.

Parnassius Hardwickii, *G. R. Gray*, *Gray's Zool. Misc.* 1. p. 32. *Boisd. Spec. Gen. Lepid.* 1. p. 400. *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 21.

Fore-wings yellowish white, with the base, the outer margin, and three short bands in front, black; the band nearest the summit with three red spots and the middle of the posterior margin with a red spot, each of which is surrounded with black, also a series of black spots even with the outer marginal band; the hinder wings yellow white, with the base and internal margin black, a red spot, surrounded with black in the middle of the anterior margin, another in the middle of the wing, and five white-pupilled black spots along the posterior margin.

Under surface much paler, but having the base and a short transverse band on the hinder wings red.

Expanse of wing two inches and a half.

Inhab. Nepal.

Pieris Belladonna, Tab. 8. f. 2.

P. alis sub-oblongis integerrimis nigris maculis albidis; anticis

subtùs maculis apicalibus tribus flavis; posticis basi margineque interiore flavis subtùs maculis flavis.

Papilio Belladonna, *Fab. Ent. Syst*, iii. 1. p. 180. *Donov. Nat. Rep. pl.* 35.

Pieris Horsfieldii, *G. R. Gray*, *Gray's Zool. Misc.* 1. p. 32. *Boisd. Spec. Gen. Lepid.* 1. p. 448.

Pieris Belladonna, *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 25.

Wings black with whitish dashes and spots; the base of the hinder wings and the interior margin yellow.

Under surface of the fore-wings black, spotted with white, and with three apical yellow spots; the hinder wings black, the interior margin and spots yellow, with four central white spots.

Expanse of wings three inches and a half.

Inhab. Nepal.

Pieris Agathon, Tab. 8. f. 1.

P. alis sub-oblongis integerrimis brunneo-nigris maculis oblongis albidis; posticis subtùs basi maculâ flavâ.

Pieris Agathon, *G. R. Gray*, *Gray's Zool. Misc.* 1. p. 33. *Boisd. Spec. Gen. Lepid.* 1. p. 447. *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 25.

Wings brownish black, with oblong whitish spots between the nervures.

Under surface like the upper, except that there is a yellow spot at the base of the hinder wings.

Expanse of wings three inches and a half.

Inhab. Nepal.

Mr. E. Doubleday considers that *Pieris Phryxe* of M. Boisduval is a variety of this species.

Pieris Thisbe, Tab. 7. f. 1.

P. alis sub-oblongis integerrimis concoloribus nigris; anticis maculis albis; posticis fasciâ maculari flavescenti-albâ basi chermesinis.

Papilio Thisbe, *Cram. t.* 232, *f. c.*

Pieris Acalis, *Godart, Ency. Method.* p. 148.

Pieris Thisbe, *Boisd. Spec. Gen. Lepid.* 1. p. 449. *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 25.

Fore-wings black, spotted with white; the hinder wings black, with a broad yellowish white band from the interior margin widening towards the anterior angle, three spots on the anterior margin white and the base crimson.

Expanse of wings three inches and a half.

Inhab. Nepal.

Pieris Brassicæ, Tab. 6. f. 1, 3.

Var. Nepalensis, *Doubl. List Lepid. Ins. Brit. Mus.* 1, p. 32.

Pieris Napi, Tab. 6. f. 2.

Both these species are like those of Europe, but are of a rather larger size.

Rhodocera Rhamni, var., Tab. 5. f. 1.

Doubl. List Lepid. Ins. Brit. Mus. 1. p. 37.

Colias Edusa, Tab. 5. f. 2.

(Var. near to C. Myrmidone), *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 41.

Colias Neriene, Tab. 5. f. 3.

Colias Neriene, *Fisch. Entom. de la Russie, Lep. t.* 11. *f.* 3, 4. *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 147.

DANAIDÆ.

Danais Tytia, Tab. 9. f. 2.

D. alis integerrimis; anticis nigris maculis albis; posticis brunneo-rufis basi maculisque albis et maculâ anguli ani nigrâ.

Danais Tytia, *G. R. Gray, Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 50.

Fore-wings black, with white semi-transparent spots between the nervures: the hinder wings brownish red, with the centre of the nervures near the base, and spots semi-transparent white, also a black spot at the anal angle.

Expanse of wings three inches and a half.

Inhab. Nepal.

Danais Melanippe, Tab. 9. f. 1.

D. alis integerrimis nigro-fuscis; anticis disco fulvo fasciâque maculari albâ; posticis basi strigis punctisque albis.

Danais chirona, *G. R. Gray.*
P. Melanippe, *Cram. t.* 127. *f.* A. B.
P. Hegesippus, *Cram. t.* 180. *f.* A, *Fabr. Ent. Syst.* iii. *p.* 56.
Danais Melanippus, *Godart, Encyc. Method. p.* 189.
Danais Hegesippus, *Godart, Encyc. Method. p.* 189.

Wings blackish brown; the base to the centre of the fore-wings fulvous, with a band of white irregular spots across near the summit; the hinder wings with the base, some longitudinal short lines, and the minute marginal spots, white.

Expanse of wings three inches.

Inhab. Nepal.

Hestia Eudora, Tab. 9. f. 3.

Hest. alis elongato-angustatis integerrimis cinerascentibus; utrisque venis maculâ in medio maculisque marginalibus nigris.

Idea Eudora, *G. R. Gray.*
Idea Daos, *Boisd. Spec. Gen. Lepid. t.* 24. *f.* 3.
Hestia Daos, *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 52.

Wings grayish white, with the nervures a central spot and two series of spots, black, one row between the nervures and the outer margin; the hinder wings of the same colour, with a large central and three rows of small spots, black, the spots of the first row round, of the second somewhat oblong and touching the margin, and the third on the nervures along the margin.

Expanse of wings four inches.

Inhab. Sumatra.

NYMPHALIDÆ.

Argynnis Childreni, Tab. 11.

A. alis subrotundatis subdentatis fulvis nigro-maculatis; posticis margine posteriori cæruleo subtùs viridi-æneis strigis argenteis.

Argynnis Childreni, *G. R. Gray*, *Gray's Zool. Misc.* 1. p. 33. *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 68.

Wings fulvous, spotted with black; the anal half of the posterior margin of the hinder wings tinged with blue.

Under surface of the fore-wings with the basal portion crimson, spotted with black, an oblique central band which extends along the margin to the posterior angle, and the summit pale green with two short white lines; the hinder wings greenish bronze with oblique silvery white bands, narrowly margined with blue on each side.

Expanse of wings three inches and a half.

Inhab. Nepal.

Argynnis Isæea, *Doubl.*

A. —— *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 68.

Vanessa Calliroe.

Papilio atalanta, *Cram. t.* 84. *f. E. F.*

Vanessa Calliroe, *Boisd.*, *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 78.

Vanessa Vulcania, *Godart*, *Encyc. Method.* p. 320.

Vanessa Cardui, var.

Doubl. List Lepid. Ins. Brit. Mus. 1. p. 79.

Vanessa Flacilla, *Doubl.*

Vanessa ——— *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 82.

Adolias Dirtea, Tab. 10. f. 1, 2.

A. alis repandis suprà nigris, fasciâ posticâ cærulescenti-albâ, subtùs corticinis maculis indistinctis.

Femina, alis fusco-nigris maculis flavis; posticis subtùs cinereis albo-maculatis.

Papilio Dirtea, *Fabr. Ent. Syst.* iii. 1. p. 59. *Jones, Icon. ined.* 65. *f.* 1. (♀).

Aconthea Boisduvalii, *G. R. Gray.*

Adolias Boisduvalii, *Boisd. Spec. Gen. Lepid. t.* 8. *f.* 2.

Adolias Dirtea, *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 104.

Wings of the male black, with the outer margin of both wings margined with purplish silvery white commencing in a point at the apex of the fore-wings, gradually becoming broader towards the anal angle, and spotted with black.

Under surface reddish brown, with indistinct spots, and the posterior half of the fore-wings purplish.

Expanse of wings three inches and three quarters.

Wings of the female, brownish black spotted with yellow; the under surface of the fore-wings like the upper, but paler; the hinder wings are light silvery cinereous spotted with white.

Expanse of wings four inches and three quarters.

Inhab. Sumatra.

Adolias Franciæ, Tab. 14.

A. alis repandis olivaceo-viridibus disco strigis nigris utrinque fasciâ maculari in medio et serie macularum marginalium; posticis maculis duabus albis.

Aconthea Franciæ, *G. R. Gray.*

Adolias Franciæ, *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 104.

Wings olive green with a spotted band down the centre of each wing somewhat in the form of a V, also two white spots near the summit of the fore-wings, and a series of white lines

along the margin of the wings, and a series of black lines interiorly.

Under surface marked like the upper side, but of a cinereous colour, with a spot of black at the posterior angle of the fore-wings.

Expanse of wings three inches and a half.

Inhab. Nepal.

Adolias Doubledayii, Tab. 13.

A. alis repandis olivaceo-viridibus; anticis fasciâ maculari maculisque duâbus; posticis maculis tribus in medio marginis anterioris albis.

Aconthea Epiona, *G. R. Gray.*

Adolias Doubledayi, *Boisd. Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 104.

Wings olive-green with black in the costal nervure; the fore-wings with a spotted white band across the middle, from the middle of the anterior margin towards the posterior angle, and two white spots near the summit; the hinder wings with three spots in the centre of the anterior margin.

Under surface like the upper, but of a cinereous colour.

Expanse of wings four inches.

Inhab. Nepal.

Adolias nicea, Tab. 12. f. 1.

A. alis fusco-nigris; anticis disco strigis tribus cæruleis et seriebus duabus punctorum alborum maculis nigris intermediis internè cærulescenti marginatis; posticis serie lunularum cærulescentium fasciâque macularum albarum pupillis nigris marginatis ocello anguli ani bipupillato.

Aconthea nicea, *G. R. Gray.*

Adolias nicea, *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 105.

Wings brownish black, the fore-wings with three blue lines in the costal nervure and two rows of white spots on the outer margin, between which are placed a row of black spots margined interiorly with blue lunes, the hinder wings with a row of blue

lunes and a row of large white spots along the margin, tinged interiorly with blue and with black spots in their centre, but the one at the anal angle contains two black spots.

Under surface of the wings brownish black, the fore-wings with three blue lines in the costal nervure and three rows of small spots on the outer margin: the first and third rows white: the intermediate row blue, and rather smaller; the hinder wings with minute blue spots scattered over the surface and a white line along the posterior margin cut by the nervures.

Expanse of wings two inches and a half.

Inhab. Nepal.

Adolias Godartii, Tab. 12. f. 2.

A. alis repandis supra fusco-nigris, subtùs dilutè corticinis; anticis supra disco lineis sex nigris; utrisque fasciâ posticâ marginali cærulescenti-albâ; anticis subtùs disco lineis quinque nigris.

Nymphalis Iapis, var., *Godart.*
Aconthea Godartii, *G. R. Gray.*
Aconthea Cocytina, *Horsf. Zool. Jour.* v. *pl.* 4. *f.* 3. 3*a*.

Wings brownish black, with six darker lines in the costal nervure; the outer margins of all the wings are bordered with a bluish silvery white band edged with black, fringed with white, commencing in a point at the apex of the fore-wings and enlarging towards the anal angle.

Under surface brownish yellow marked in the costal nervure with five black lines.

Expanse of wings two inches and a half.

Inhab. Sumatra.

SATYRIDÆ.

Orinoma Damaris, *Doubl.*, Tab. 7. f. 2. 2a.

P. alis integerrimis flavescenti-albis venis fasciisque marginalibus brunneis; anticis disco aurantio maculis duâbus nigris.

Pieris Damaris, *G. R. Gray.*

Satyrus? Damaris, *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 122.

Wings yellowish white, with the veins and marginal bands brown; the costal nervure of the fore-wings orange, with two black spots in the middle.

Under surface paler.

Expanse of wings three inches.

Inhab. Nepal.

LIBYTHEIDÆ.

Libythea Myrrha, Tab. 12. f. 4.

L. alis fusco-nigris; anticis fasciâ transversali maculisque duâbus; posticis fasciâ crassâ transversali in medio fulvis.

Libythea Myrrha, *Godart, Encycl. Method.* p. 171. *Doubl. List Lepid. Ins. Brit. Mus.* 1. p. 146. *Hubner's Zut. f.* 789—790.

Wings brownish black; the fore-wings with a transverse fulvous band in the centre, commencing from a point at the base and enlarging towards but not touching the outer margin and two large fulvous spots at the summit; the hinder wings with a transverse broad fulvous band in the centre not touching the outer margin.

Expanse of wings two inches.

Inhab. Nepal.

BOMBYCIDÆ.

Saturnia Certhia, Tab. 15, 16.

Alis rotundatis badiis; anticis basi transverse nigro-fasciatis in medio nigro maculatis apice in dimidio posteriori lineis numerosis angustis subundulatis nigris; posticis nigris margine lato posteriori flavescente lineis angustissimis undulatis numerosissimis nigris notato.

Bombyx Certhia, *Fabr. Ent. Syst.* iii. p. 412.

Phalæna maxima e Chusan, *Petiver*, *Gaz. t.* 18. *f.* 3. ?

Bombyx Wallichii, *Gray*, *Zool. Misc.* 1. p. 39.

Bombyx spectabilis, *Hope*, *Linn. Trans.* xviii. p. 443, *pl.* 31, *f.* 3.

Wings rounded, fore-wings above bay black-spotted, black cross-banded at the base, the hinder half of the outer end with numerous parallel slightly waved narrow lines; the hinder wings above black with a broad yellowish margin, varied with numerous parallel wavy blackish lines; wings beneath black with a broad yellow margin varied with very narrow obscure wavy lines; antennæ pale brown, strongly pectinated; the body black with the abdominal rings brown-edged.

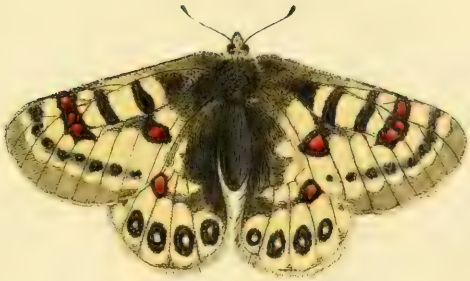
Expanse of wings six inches.

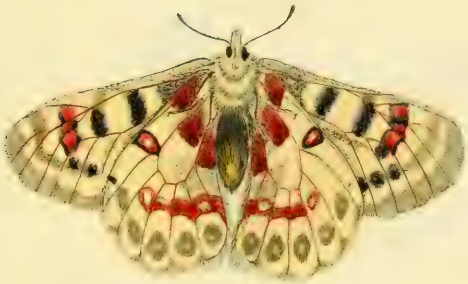
Inhab. Nepal.

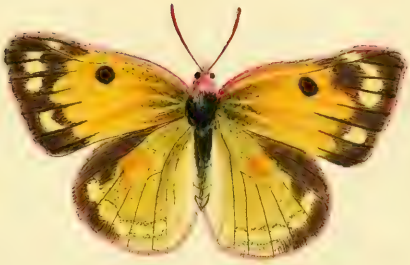
E. NEWMAN, PRINTER, DEVONSHIRE STREET, BISHOPSGATE.

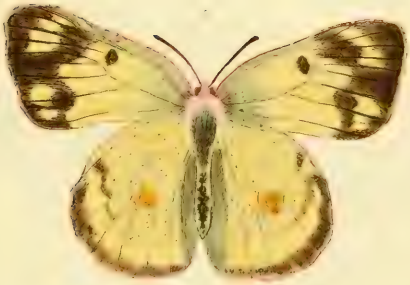
Tab. I

Ve. Mayani



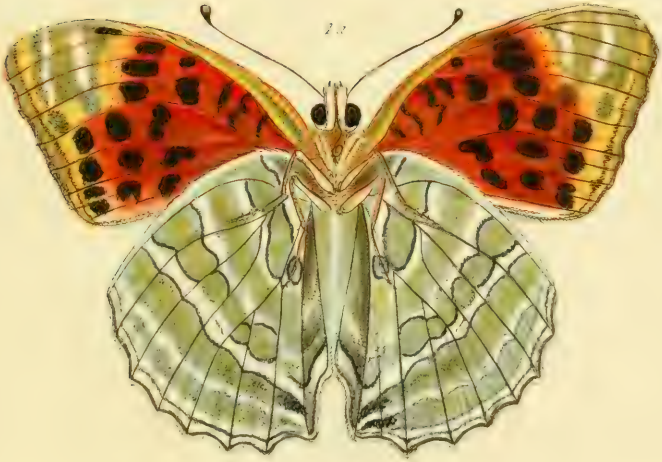




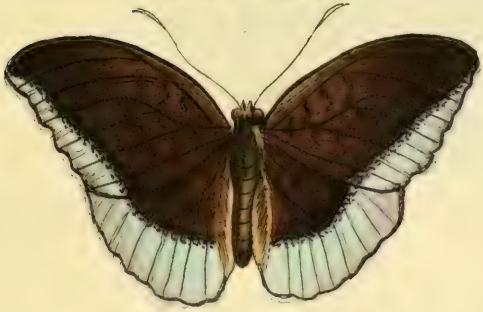


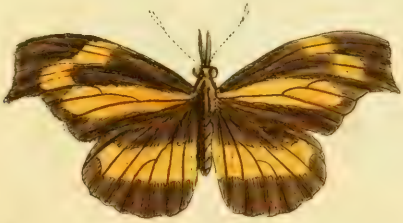
Repeni

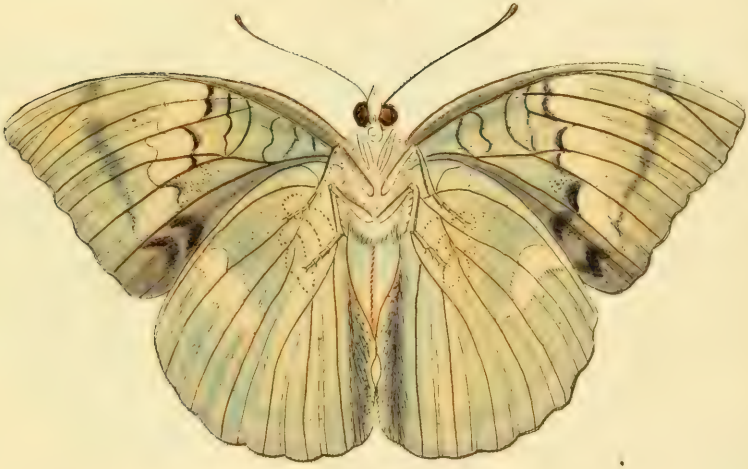
Tab. II.

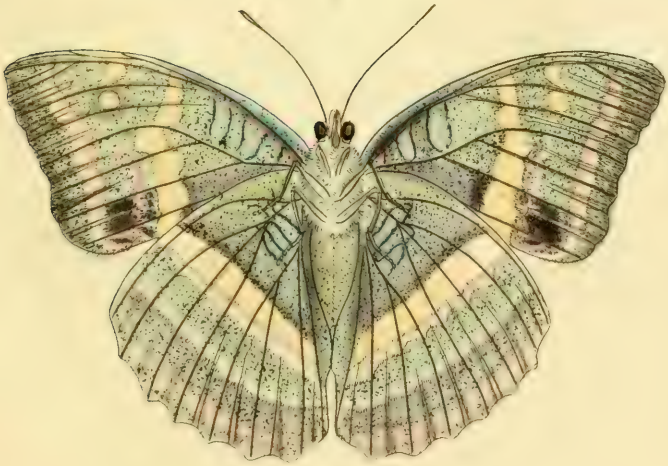


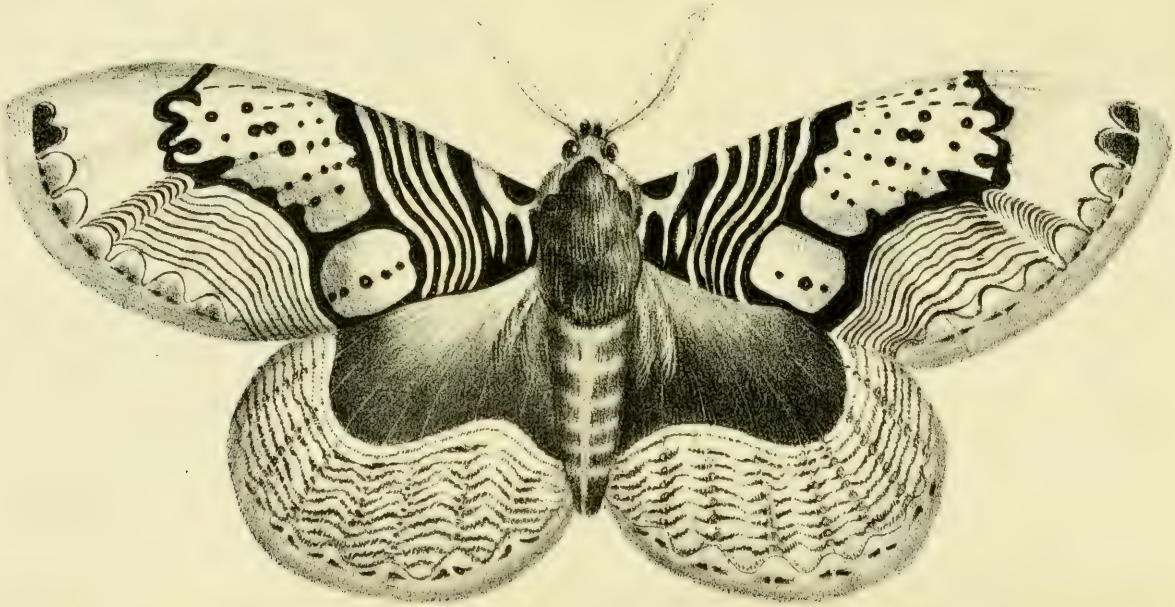
T. Vaughan Sculp.

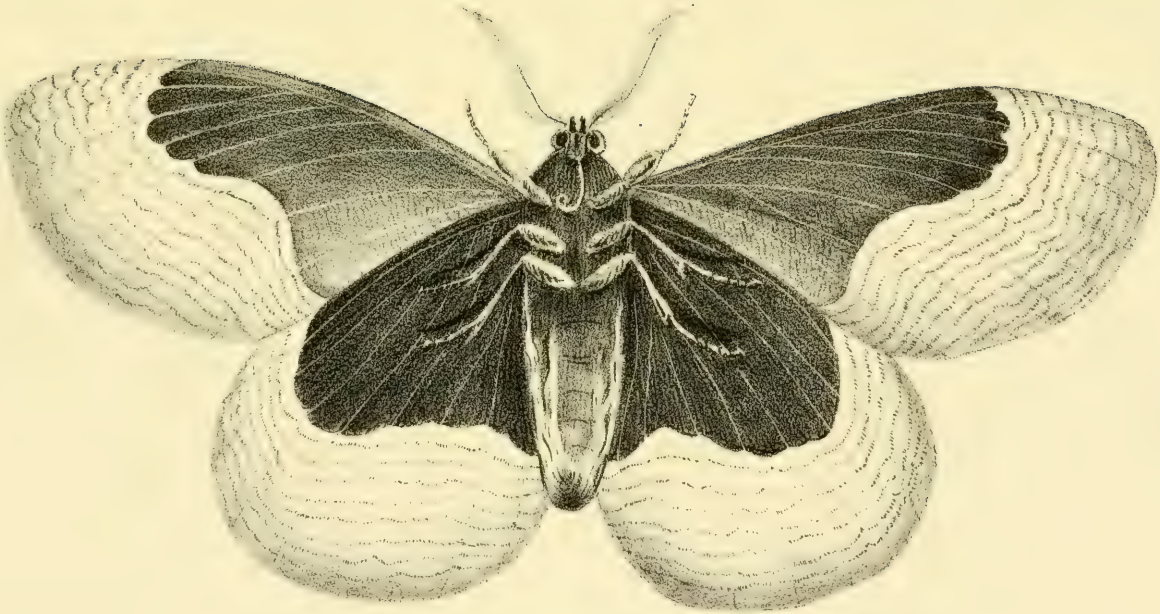












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